

DRAFT
Maintenance Concept Remains Consistent With Prior
Fiscal Year

STATEMENT OF WORK (SOW)
FOR THE IROAN OF THE
METEOROLOGICAL STATION GROUP (MSG)
AN/TMQ-49
NSN 6660-01-428-9218

TABLE OF CONTENTS

Paragraph	Title	Page
1.0	SCOPE	1
1.1	Background	1
2.0	Applicable Documents	1
2.1	Military Standards	1
2.2	Other Government Documents and Publications	1
2.3	Industry Standards	3
3.0	REQUIREMENTS	3
3.1	General Tasks	3
3.2	Detail Tasks	3
3.2.1	Phase I - Pre-Induction	3
3.2.1.1	AN/TMQ 41 System Pre-Induction Inspection and Inventory	4
3.2.1.2	M1097A1 HMMWV Pre-Induction	4
3.2.1.3	M101A3 Cargo Trailers Pre-Induction	4
3.2.1.4	OV 103/U Generator Trailer Pre-Induction	4
3.2.1.5	Shelter Pre-induction	4
3.2.2	Phase II - Repair	4
3.2.2.1	M1097AI HMMWV Repair	5
3.2.2.2	M101A3 Cargo Trailer Repair	5
3.2.2.3	OV 103/U Generator Trailer Repair	6
3.2.2.4	Shelter Repair	6
3.2.3	Phase III - Inspection, Testing and Acceptance	6
3.2.4	Phase IV - Packaging, Handling, Storage and Transportation (PHS&T)	7
3.3	Government Furnished Equipment/Government Furnished Material	7
3.4	Contractor Furnished Materiel	7
3.5	Electrostatic Discharge (ESD) Control Program	8
3.6	Quality Assurance Provisions	8
3.7	Acceptance	8
3.8	Rejection	8
3.9	Configuration Control	8
4.0	REPORTS	8
4.1	Pre-Induction Checklist	8
4.2	Repairable Item Inspection Report	9
4.3	Monthly Progress Report	9

Appendices

Appendix A	DA Form 2404 (I Apr 79)	A-1 thru A-2
Appendix B	Standard Form 364 (Rev. 2-80)	B-1 thru B-2
Appendix C	Requirements for IROAN of HUMMWV	C-1 thru C-6

Tables

Table 1	Engine Wear/Metal Guidelines	T-1
Table 2	Transmission Wear/Metal Guidelines	T-2

**STATEMENT OF WORK (SOW) FOR THE
Inspect Repair Only As Necessary (IROAN)
For The Meteorological Station Group (MSG) AN/TMQ-49
NSN 6660-01-428-9218**

1.0 SCOPE. This Statement of Work (SOW) establishes, sets forth tasks, and identifies the work effort that shall be performed by the Contractor in the IROAN of the Meteorological Station Group (MSG), AN/TMQ-49, Drawing Number 95008A0000, CAGE Code 01365, NSN 6660-01-428-9218, ID# 10269A, TAMCN E1035; hereafter referred to as the Meteorological Station Group. The Meteorological Station Group major system components to be IROANed are; one AN/TMQ-41 Meteorological Measuring Set, one OV-103/U Generator Trailer, two M101A3 Cargo Trailers and three High Mobility Multi-purpose Wheeled Vehicles (HMMWV). This document contains requirements to restore the Meteorological Station Group to Condition Code "A". Condition Code "A" is defined as "serviceable/issuable without qualification, new, used, repaired or reconditioned materiel which is serviceable and issuable to all customers without limitation or restriction, including materiel with more than six months shelf-life remaining."

1.1 Background. IROAN is defined as "That maintenance technique which determines the minimum repairs necessary to restore equipment, components or assemblies to prescribed maintenance serviceability standards by utilizing all available diagnostic equipment and test procedures in order to minimize disassembly and parts replacement."

2.0 Applicable Documents. The following documents form a part of this SOW to the extent specified. Unless otherwise specified, the issues of these documents are those listed in the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto which is in effect on the date of solicitation. In the event of conflict between the documents referenced herein and the contents of this SOW, the contents of this SOW shall be the superseding requirement.

2.1 Military Specifications

MIL-PRF-46108	Armor: Transparent
---------------	--------------------

2.2 Military Standards

MIL-STD-129	DoD Standard Practice for Military Marking for Shipment and Storage
-------------	---

MIL-STD-2073-1D	DoD Standard Practice for Military Packaging
-----------------	--

MIL-STD-3003	Vehicles, Wheeled; Preparation and storage of
--------------	---

2.3 Other Government Documents and Publications: The issues of those documents cited below shall be used.

ATPD-2241	Vehicles, Wheeled: Preparation for Shipment and Storage of
MWO 9-2320-280-35-1	Modification of 1-1/4 Ton Vehicles (Parking Brake)
TB 9-2300-388-50	Acceptance Testing of Reconditioned Combat and Tactical Vehicles
TB 43-0213	Corrosion Prevention and Control
TM 9-2330-202-14&P	Trailer, Cargo: 3/4 – Ton, 2 Wheel
TM 10103A-13/1	Maintenance Manual AN/TMQ-41, Meteorological Measuring Set
TM 10103A-23P/2	Repair Parts and Special Tools List, Meteorological Measuring Set
TM 10-5411-224-14	Operators, Unit, Direct Support& General Maintenance for Lightweight Multipurpose Shelters Model No. S-788/G Type III
TM 10103A-23/4-1	Receiving Set, Radiosonde
TM 10103A-23/5-1	Antenna AS-4335/TMQ-41
TM 10103A-23/5-2	Antenna AS-4335/TMQ-41
TM-2320-10/6B	Operator's Manual (Lubrication Instruction)
TM-2320-20/7B	VOL 1 Unit Level Maintenance
TM-2320-20/7B	VOL 2 Unit Level Maintenance
TM-2320-20/7C	VOL 3 Unit Level Maintenance
TM-2320-24P/8A	VOL 1 Repair Parts and Special Tools List
TM-2320-24P/8A	VOL 2 Repair Parts and Special Tool List
TM-2320-34/9B	Direct Support and General Support Maintenance
TM-2815-34/3A	Direct Support and General Support Engine Maintenance
TM-2815-34P/4B	Repair Parts and Special Tool List Engine

TM-2320-50/1	Inspect Repair Only As Necessary Manual
TM-4750-15/1	Painting Registration Markings
TM-4750-15/2	Camouflage Paint Patterns
TI-5820-25/22	Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on U.S. Marine Corps Platforms
NAVAIR 17-15-50.1	Joint Oil Analysis Program Manual, Volume I
SL-3-10269A	Components List for the Meteorological Station Group
SL-3-10441A	Components List for Generator Trailer Group
Engineering Drawing 97005A4000 CAGE 01365	Tech Data Pkg. For the Generator Trailer Group, OV-103/U
Engineering Drawing 95008A0000 CAGE 01365	Meteorological Station Group, AN/TMQ-49
Engineering Drawing 95008A2000 CAGE 01365	Kit, Rack Installation
Engineering Drawing 95008A2100 CAGE 01365	Rack, Helium, Cylinder
TI-11240-25/37	Solargizer Panel and Battery Mat Installation
DoD 4000.25-1-M	Military Standard Requisitioning and Issue Procedures (MILSTRIP)
<u>Military Handbooks (For Guidance)</u>	
MIL-HDBK-61	Configuration Management Guidance

2.4 Industry Standards

JESD625-A	Requirements for Handling Electrostatic-Discharge Sensitive ESDS Devices
-----------	--

ANSI/ISO/ASQC Q9001-2000	Quality Management Systems - Requirements
--------------------------	---

Industry Standards (for Guidance)

ANSI/EIA-649	National Consensus for Configuration Management
--------------	---

Copies of Military Standards and Specifications are available from the DOD Single Stock Point, Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, commercial telephone number (215) 697-2179 or DSN 442-2179, or <http://www.dodssp.daps.mil>. Copies of other government documents and publications required by contractors in connection with specific SOW requirements shall be obtained through the Contracting Officer: Contracts Department (Code 891), P.O. Drawer 43019, 814 Radford Blvd., Marine Corps Logistics Command, Albany, Georgia 31704-3019, commercial telephone number (229) 639-6761 or DSN 567-6761. Copies of engineering drawings, if applicable, shall be obtained from Supply Chain Management Center, Attn: Code 566-1A, 814 Radford Blvd., Suite 20320, Albany, Georgia 31704-0320, commercial telephone number (229) 639-6476 or DSN 567-6476.

3.0 REQUIREMENTS.

3.1 General Tasks. In fulfilling the specified requirements, the Contractor shall provide materials, labor, equipment, facilities and missing/repair parts, necessary to inspect, diagnose, restore, and test the Meteorological Station Group (MSG) Drawing Number 95008A0000, CAGE 01365. HMMWV shall be in accordance with Appendix C, 1.0 Requirements for IROAN of HMMWV. Upon completion of repair, the subject item shall be Condition Code "A".

3.2 Detail Tasks. The following tasks describe the different phases for repair of the MSG.

Phase I	Pre-Induction
Phase II	Repair
Phase III	Inspection, Testing and Acceptance
Phase IV	Packaging, Handling, Storage and Transportation

3.2.1 Phase I Pre-Induction. A Pre-Induction Inspection Analysis shall be made for each MSG to be IROANed under the provisions of this SOW using the Contractor Facility's diagnosis, inspection and testing techniques to determine the extent of work and parts required. The system shall be broken down into components including separating the Meteorological Measuring Set AN/TMQ-41 from the HMMWV. All systems will be evaluated for repair capability.

3.2.1.1 AN/TMQ-41 System Pre-Induction Inspection and Inventory. Upon receipt of the MSG, an inspection/inventory shall be completed per the SL-3-10269A, SL-3-10441A and the approved drawing package 95008A0000, CAGE 01365 to determine any missing components or collateral gear. Any discrepancies shall be reported to Marine Corps Systems Command (MCSC), Code PMM141, Albany, Georgia on a report of discrepancy form SF 364 (Appendix B) within five days of receipt.

3.2.1.2 M1097A1 HMMWV Pre-Induction. The HMMWV pre-induction process for the M1097A1's will consist of a Limited Technical Inspection (LTI) in accordance with Appendix C, paragraph 1.2.1. Report DA-2404 (Appendix A) and Standard Form 364 (Appendix B) shall be used to report all anomalies and shall be provided to MCSC (Code PMM141), Albany, Georgia along with a copy of the LTI in accordance with section 4.0 of this SOW.

3.2.1.3 M101A3 Cargo Trailers. A pre-induction LTI shall be performed for the M101A3 Cargo Trailers for evaluation of repair requirements. Report DA-2404 (Appendix A) and Standard Form 364 (Appendix B) shall be used to report all anomalies and shall be provided to MCSC (Code PMM141), Albany, Georgia along with a copy of the LTI in accordance with section 4.0 of this SOW.

3.2.1.4 OV 103/U Generator Trailer (GT) Pre-Induction. A pre-induction LTI shall be performed for the M116A3 Trailer for each GT in the evaluation of repair requirements. Report DA-2404 (Appendix A) and Standard Form 364 (Appendix B) shall be used to report all anomalies and shall be provided to the MCSC (Code PMM141), Albany, Georgia along with a copy of the LTI in accordance with section 4.0 of this SOW.

3.2.1.5 Shelter Pre-induction. A pre-induction LTI inspection shall be performed for the MMS shelter for evaluation of repair requirements. Report DA-2404 (Appendix A) and Standard Form 364 (Appendix B) shall be used to report all anomalies and shall be provided to the MCSC (Code PMM141), Albany, Georgia along with a copy of the LTI in accordance with section 4.0 of this SOW.

3.2.2 Phase II – Repair. After Pre-Induction Tests and Inspections have been completed, repair of the Meteorological Station Group shall be accomplished as separate items, HMMWV vehicles (three per system), AN/TMQ-41 Meteorological Measuring Set (one per system), OV 103/U Generator Trailer (one per system), M101A3 Cargo Trailers (two per system), and the Helium Racks (two per system).

Upon completion of the repair work the Meteorological Station Group components shall be reconfigured as a system. The following Standards and Publications shall be used to assist the Contractor in restoring the Meteorological Station Group to condition code "A":

SL-3-10269A

Components List for the Meteorological Station Group

TM 9-2330-202-14&P

Trailer, Cargo: 3/4 – Ton, 2 Wheel

TM 10103A-13/1	Maintenance Manual AN/TMQ-41, Meteorological Measuring Set
TM 10103A-23P/2	Repair Parts and Special Tools List, Meteorological Measuring Set
TM 10-5411-224-14	Operators, Unit, Direct Support& General Maintenance for Lightweight Multipurpose Shelters Model No. S-788/G Type III
TM 10103A-23/4-1	Receiving Set, Radiosonde
TM 10103A-23/5-1	Antenna AS-4335/TMQ-41
TM 10103A-23/5-2	Antenna AS-4335/TMQ-41
Engineering Drawing 95008A2100 CAGE 01365	Rack, Helium, Cylinder
Engineering Drawing 95008A2000 CAGE 01365	Kit, Rack Installation

3.2.2.1 MI097A1 HMMWV Repair. The vehicle shall have all discrepancies identified in the Pre-Induction LTI corrected using Appendix C, paragraph 1.2.2, Phase II - IROAN. Any modifications peculiar to the Meteorological Station Group that are removed during the IROAN process will be reinstalled. The following Standards and Publications shall be used to assist the Contractor in restoring the HMMWVs to condition code "A" in their correct Meteorological Station Group configuration.

SL-3-10269A	Components List for the Meteorological Station Group
MWO 9-2320-280-35-1	Modification of 1-1/4 Ton Vehicles (Parking Brake)
TI-11240-25/37	Solargizer Panel and Battery Mat Installation
TB 9-2300-388-50	Acceptance Testing of Reconditioned Combat and Tactical Vehicles
TM-2320-10/6B	Operator's Manual (Lubrication Instruction)
TM-2320-20/7B	VOL 1 Unit Level Maintenance
TM-2320-20/7B	VOL 2 Unit Level Maintenance
TM-2320-20/7C	VOL 3 Unit Level Maintenance

TM-2320-24P/8A	VOL 1 Repair Parts and Special Tools List
TM-2320-24P/8A	2 Repair Parts and Special Tool List
TM-2320-34/9B	Direct Support and General Support Maintenance
TM-2815-34/3A	Direct Support and General Support Engine Maintenance
TM-2815-34P/4B	Repair Parts and Special Tool List Engine
TM-2320-50/1	Inspect Repair Only As Necessary Manual
TM-4750-15/1	Painting Registration Markings
TM-4750-15/2	Camouflage Paint Patterns
TI-5820-25/22	Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on U.S. Marine Corps Platforms
NAVAIR 17-15-50.1	Joint Oil Analysis Program Manual, Volume I

3.2.2.2 M101A3 Cargo Trailer Repair. Deficiencies noted on the Pre-Induction LTI for the M101A3 Cargo Trailer shall be repaired/replaced and will be brought to condition code “A” by repairing or replacing those items identified on the pre-induction inspection. In addition to the discrepancies noted, all rubber goods and hydraulic brake components will be mandatory replacements. TM 9-2330-202-14&P shall be used as a guide. The trailer will be steam cleaned, undercoated and painted.

Components or assemblies shall not be disassembled for replacement of parts unless that part has failed or the component assembly wherein the part is located is disassembled for repair. The following Standards and Publications shall be used to assist the Contractor in restoring the M101A3 Cargo Trailer to condition code “A”:

TM 9-2330-202-14&P	Trailer, Cargo: 3/4 – Ton, 2 Wheel
--------------------	------------------------------------

3.2.2.3 OV 103/U Generator Trailer Repair. The Generator Trailer will be brought to condition code “A” by repairing or replacing those items identified on the pre-induction inspection. In addition to the discrepancies noted, all rubber goods and hydraulic brake components will be mandatory replacements. TM 9-2330-202-14&P shall be used as a guide. The trailer will be steam cleaned, undercoated and painted.

Components or assemblies shall not be disassembled for replacement of parts unless that part has failed or the component assembly wherein the part is located is disassembled for repair. The

following Standards and Publications shall be used to assist the Contractor in restoring the Generator Trailer to condition code “A”:

SL-3-10441A	Components List for Generator Trailer Group, OV-103/U
TM 9-2330-202-14&P	Trailer, Cargo: 3/4 – Ton, 2 Wheel
Engineering Drawing 97005A4000 CAGE 01365	Tech Data Pkg. For the Generator Trailer Group, OV-103/U

3.2.2.4 Shelter Repair. Deficiencies noted on the Pre-Induction LTI shall be repaired/replaced. Components or assemblies shall not be disassembled for replacement of parts unless that part has failed, or the component assembly wherein the part is located is disassembled of repair. The following Standards and Publications shall be used to assist the Contractor in restoring the MMS Shelter to condition code “A.”

SL-3-10269A	Components List for the Meteorological Station Group
TM 10103A-13/1	Maintenance Manual AN/TMQ-41, Meteorological Measuring Set
TM 10103A-23P/2	Repair Parts and Special Tools List, Meteorological Measuring Set
TM 10-5411-224-14	Operators, Unit, Direct Support& General Maintenance for Lightweight Multipurpose Shelters Model No. S-788/G Type III

3.2.3 Phase III –Inspection, Testing and Acceptance.

a. Inspection, Testing and Acceptance of the HMMWV shall be conducted in accordance with Appendix C, Paragraph 1.2.3

b. Inspection, Testing and Acceptance of the M101A3 trailers shall be in accordance with:

TM 9-2330-202-14&P	Trailer, Cargo: 3/4 – Ton, 2 Wheel
--------------------	------------------------------------

c. Inspection, Testing and Acceptance of the OV 103/U Generator Trailer shall be in accordance with TM 9-2330-202-14&P, Trailer, Cargo: 3/4 – Ton, 2 Wheel.

SL-3-10441A	Components List for Generator Trailer Group, OV-103/U
Engineering Drawing 97005A4000 CAGE 01365	Tech Data Pkg. For the Generator Trailer Group, OV-103/U

d. Inspection, Testing and Acceptance of the Meteorological Measuring Set as a "System" shall be in accordance with the TM 10103A-13/1.

e. The Contractor shall be responsible for correcting any deficiencies identified during inspection/testing. MCSC (Code PMM141), Albany, Georgia representatives may require the Contractor to repeat tests or portions thereof, if the original tests fail to demonstrate compliance with this SOW.

3.2.4 Phase IV – Packaging, Handling, Storage and Transportation (PHS&T)

a. The Contractor shall be responsible for preservation and packaging of item(s) being repaired under the terms of this Statement of Work. Items scheduled for long-term storage or shipment to overseas destinations shall be in accordance with the level "A" requirements of MIL-STD-2073-1D, Appendix A, Table A.VI, Electronic Equipment, MIL-STD-3003 for Wheeled Vehicles and MIL-STD-2073-1D, Method 10 for the Generator Set. Items scheduled for domestic shipment for immediate use or short-term storage shall be to level B requirements of their respective document. Items classified as Electrostatic Sensitive Devices shall be in accordance with level "A" requirements of MIL-STD-2073-1D, Appendix J, Table J.Ia., Specialized Preservation Code "GX", and shall be packed in a reusable fast pack container.

b. Marking for shipment and storage shall be in accordance with MIL-STD-129.

c. The Marine Corps will provide the contractor with the shipping address(es) for delivery of the repaired equipment. The Contractor shall be responsible for shipment to the pre-designated site(s). The Marine Corps will be responsible for transportation costs associated with shipping the equipment to and from the contractor.

3.3 Government Furnished Equipment (GFE)/Government Furnished Materiel (GFM). The Management Control Activity (MCA/Code 581-1B) will coordinate GFE/GFM requests and maintain a central control system on all government owned assets in the contractor's possession. The MCA will forward a GFE Accountability Agreement to the contractor for signature on an annual basis to establish a chain of custody and identify property responsibilities for Marine Corps assets. The contractor is to acknowledge receipt of GFM to MCA within 15 days of receipt. This can be done by mailing a copy of the DD1348 to Materiel and Distribution Management Department, Distribution Management Branch, Management Control Activity (Code 581-1B), 814 Radford Blvd., STE 20320, Albany, Georgia 31704-0320, or faxing a copy to commercial telephone number (229) 639-5498 or DSN 567-5498.

3.4 Contractor Furnished Materiel (CFM). The Contractor may requisition materiel as required in the performance of the SOW through the DoD Supply System. DoD 4000.25-1-M (MILSTRIP), Chapter 11 provides guidance to contractors on the requisitioning process. The contractor's decision to utilize CFM procured from the DoD Supply System shall be based upon cost effectiveness, availability of materiel and the required completion/delivery date.

3.5 Electrostatic Discharge (ESD) Control Program. The contractor shall establish, implement and document an ESD control program following the guidelines provided in JESD625-A. ESD

protective measures shall be used during manufacturing, handling, inspecting, testing, marking, packaging, storing and transporting ESD sensitive components.

3.6 Quality Assurance Provisions. The Contractor shall provide and maintain a Quality System that as a minimum adheres to the requirements of ANSI/ISO/ASQC 9001-2000, Quality Management Systems - Requirements. The program shall ensure quality throughout all areas to include processing, assembly, inspection, test, maintenance, and preparation for delivery and shipping. Unless otherwise specified in the contract, the contractor shall be responsible for performance of all inspection requirements. MCSC (PMM141) Albany, Georgia reserves the right to perform any of the inspections set forth in the contract where such inspections are deemed necessary to assure products and services conform to the prescribed requirements.

3.7 Acceptance. The performance of the Contractor and the quality of work delivered, including all equipment furnished and documentation written or compiled, shall be subject to in-process review and inspection during performance. Inspection may be accomplished in-plant or at any work site or location, and MCSC (Code PMM141), Albany, Georgia representatives shall be permitted to observe the work or to conduct an inspection.

3.8 Rejection. Failure to comply with any of the specified requirements listed herein shall be reason for rejection by MCSC (Code PMM141), Albany, Georgia, representative. The Contractor shall, at no additional cost to MCSC (Code PMM141), Albany, Georgia and/or their representative, correct the deficiencies and repeat the verification until an acceptable compliance with acceptance test procedures is demonstrated.

3.9 Configuration Control. The contractor shall implement configuration control to established configuration items. The contractor shall not implement configuration changes to an item's documented performance or design characteristics without prior written authorization. All permanent changes to the form, fit or function of the baseline shall be by Engineering Change Proposal (ECP). If it is necessary to temporarily depart from the authorized configuration, the Contractor shall prepare and submit a Request for Deviation (RFD). MIL-HDBK-61 and ANSI/EIA-649 provide guidance for preparing these configuration control documents.

4.0 REPORTS. Copies of requested reports shall be delivered to Marine Corps Systems Command, Attn: (Code PMM141), 814 Radford Blvd., Suite 20343, Albany, Georgia 31704-0343 unless otherwise directed in a Contract Data Requirements List.

4.1 Pre-Induction Checklist. The Contractor shall complete the Pre-Induction Inspection LTI for HMMWVs, M101A3 Trailers, MMS Shelter and OV 103/U Generator Trailer. One copy of each document shall be provided to MCSC (Code PMM141), Albany, Georgia, after induction of the Meteorological Station Group.

4.2 Repairable Item Inspection Report. The Contractor shall provide a Repairable Item Inspection Report for each Meteorological Station Group. The report shall be identified by United States Marine Corps Serial Number.

4.3 Monthly Progress Reports. The Contractor shall provide Monthly Progress Reports summarizing the progress and status of the Meteorological Station Group IROAN Program.

[illegible]

INSTRUCTIONS

DEPARTMENT OF DEFENSE: DLAR 4140.55/AR 735-11.2/NAVSUPINST 4440.127E/AFR 400-54/MCO 4430.3E, Reporting of Item and Packaging Discrepancies, and/or DLAR 4140.60/AR 12-12/NAVSUPINST 4920.9B/AFR 87-7/MCO 4140.1B, Processing Discrepancy Reports Against Foreign Military Sales Shipments.
CIVILIAN AGENCIES: See FPMR handbook cited in 19(2)(a).

REPORT OF DISCREPANCY (ROD)				1. DATE OF PREPARATION		2. REPORT NUMBER		
<input type="checkbox"/> SHIPPING <input type="checkbox"/> PACKAGING								
3. TO (Name and address, include ZIP Code)				4. FROM (Name and address, include ZIP Code)				
5a. SHIPPER'S NAME				5b. NUMBER AND DATE OF INVOICE		6. TRANSPORTATION DOCUMENT NUMBER (GRL, Waybill, TCN, etc.)		
7a. SHIPPER'S NUMBER (Purchase Order/Shipments, Contract, etc.)		7b. OFFICE ADMINISTERING CONTRACT		8. REQUISITIONER'S NUMBER (Requisition, Purchase Request, etc.)				
9. SHIPMENT, BILLING, AND RECEIPT DATA						10. DISCREPANCY DATA		11.
NSN/PART NUMBER AND NOMENCLATURE (a)		UNIT OF ISSUE (b)	QUANTITY SHIPPED/BILLED (c)	QUANTITY RECEIVED (d)	QUANTITY (a)	UNIT PRICE (b)	TOTAL COST (c)	CODE ¹ (d)
								AC- ² TION CODE
12. REMARKS (Continue on separate sheet of paper if necessary)								

1 DISCREPANCY CODES		2 ACTION CODES
CONDITION OF MATERIAL C1 - In condition other than that indicated on release/receipt document C2 - Expired shelf life C3 - Damaged parcel post shipment SUPPLY DOCUMENTATION D1 - Not received D2 - Illegible or mutilated D3 - Incomplete, improper or without authority (Only when receipt cannot be properly processed) MISDIRECTED MATERIAL M1 - Addressed to wrong activity OVERAGE/DUPLICATE SHIPMENTS O1 - Quantity in excess of that on receipt document O2 - Quantity in excess of that requested (Other than unit of issue pack) O3 - Quantity duplicates shipment PACKING DISCREPANCY P1 - Improper preservation P2 - Improper packing P3 - Improper marking P4 - Improper unitization	PRODUCT QUALITY DEFICIENCIES Q1 - Deficient material (Applicable to Grant Aid and FMS shipments) SHORTAGE OF MATERIAL S1 - Quantity less than that on receipt document S2 - Quantity less than that requested (Other than unit of issue pack) S3 - Non-receipt of parcel post shipments ITEM TECHNICAL DATA MARKINGS (i.e., Name Plates, Log Books, Operating Handbooks, Special Instructions, etc.) T1 - Missing T2 - Illegible or mutilated T3 - Precautionary operational markings missing T4 - Inspection data missing or incomplete T5 - Serviceability operating data missing or incomplete T6 - Warranty data missing WRONG ITEM (Identify requested item as a separate copy in item 5 above) W1 - Incorrect item received W2 - Unacceptable substitute OTHER DISCREPANCIES Z1 - See remarks	1A - Disposition instructions requested (Reply on reverse) 1B - Material being retained (See remarks) 1C - Supporting supply documentation requested 1D - Material still required expedite shipment (Not applicable to FMS) 1E - Local purchase material to be returned at supplier's expense unless disposition instructions to the contrary are received within 15 days (Reply on reverse) (Not applicable to FMS) 1F - Replacement shipment requested (Not applicable to FMS) 1G - Reshipment not required. Item to be re-requisitioned 1H - No action required. Information only. 1Z - Other action requested (See remarks)
13. FUNDING AND ACCOUNTING DATA		
14a. TYPED OR PRINTED NAME, TITLE, AND PHONE NUMBER OF PREPARING OFFICIAL		14b. SIGNATURE
15. DISTRIBUTION ADDRESSEES FOR COPIES		

29 August 2003

16. FROM:		17. DISTRIBUTION ADDRESSEES FOR COPIES	
18. TO:		Use window envelope to mail this document. Insert name and address, including ZIP Code, starting one typing space below the left dot. Each address line must NOT extend beyond right dot. Address must not exceed four single space typing lines.	
19. IN ACCORDANCE WITH NOTICE OF DISCREPANCY ON FACE OF THIS FORM:			
a. MATERIAL Fold here <input type="checkbox"/> HAS BEEN <input type="checkbox"/> WILL BE SHIPPED	DOCUMENT NUMBER	b. <input type="checkbox"/> NO RECORD OF SHIPMENT. RESUBMIT REPORT TO PROPER OFFICE UNDER APPROPRIATE REGULATION.	
c. <input type="checkbox"/> AN ADJUSTMENT IN BILLING HAS BEEN/WILL BE PROCESSED AS A: <input type="checkbox"/> CREDIT <input type="checkbox"/> DEBIT	d. <input type="checkbox"/> INVOICE/BILL ATTACHED	e. <input type="checkbox"/> PROOF OF DELIVERY (Parcel Post Shipments) OR EVIDENCE OF SHIPMENT ENCLOSED.	
f. <input type="checkbox"/> AN ADJUSTMENT IN BILLING FOR THE REPORTED DISCREPANCY WILL NOT BE PROCESSED FOR THE FOLLOWING REASON WHICH IS CITED IN THE INDICATED REGULATION.			
(1) REASON FOR NOT PROCESSING		(2) PRESCRIBING REGULATION	
(a) DISCREPANCY WAS NOT REPORTED WITHIN THE TIME FRAMES ALLOWED AND/OR		(a) CHAPTER 5 OF THE GSA HANDBOOK, DISCREPANCIES OR DEFICIENCIES IN GSA OR DOD SHIPMENTS, MATERIAL, OR BILLINGS (FPMR 101-26.8)	
(b) DOLLAR VALUE DOES NOT MEET THE CRITERIA PRESCRIBED IN THE REGULATION OR AGREEMENT INDICATED IN 19f(2)		(b) CHAP. 2 AND/OR 7 OF DOD 4000.25-7-M, MILITARY STANDARD BILLING SYSTEM (MILSBILLS) AND/OR DD 1513, U.S. DOD OFFER AND ACCEPTANCE, AS APPLICABLE.	
20. THE FOLLOWING DISPOSITION IS TO BE MADE OF THE REFERENCED MATERIAL:			
a. <input type="checkbox"/> PROCESS FOR DISPOSAL IN ACCORDANCE WITH SERVICE/AGENCY DIRECTIVES	b. <input type="checkbox"/> REPRESENTATIVE WILL CALL FOR DISCUSSION CONCERNING DISPOSITION IN:	DAYS	
c. <input type="checkbox"/> RETAIN MATERIAL AT NO CHARGE.	d. <input type="checkbox"/> MATERIAL WILL BE PICKED UP IN:	DAYS	
e. <input type="checkbox"/> SHIP MATERIAL (Specify location):			
(1) <input type="checkbox"/> GBL APPROPRIATION CHARGEABLE:			
(2) <input type="checkbox"/> CHARGES COLLECT - VIA: <input type="checkbox"/> FREIGHT <input type="checkbox"/> EXPRESS <input type="checkbox"/> PARCEL POST (\$ _____ postage advanced herewith. NOTE: Please enclose postage. Material cannot be returned Parcel Post collect.)			
(3) <input type="checkbox"/> PARCEL POST LABEL ATTACHED (4) <input type="checkbox"/> FREIGHT PREPAID			
f. <input type="checkbox"/> OTHER (Specify)			
21. <input type="checkbox"/> IF MATERIAL IS STILL REQUIRED. SUBMIT NEW REQUISITION		22. <input type="checkbox"/> REPLACEMENT WITH SATISFACTORY MATERIAL WILL BE MADE ON OR BEFORE:	
23. REMARKS (Continue on separate sheet of paper if necessary)		DATE	
24a. TYPED OR PRINTED NAME AND PHONE NUMBER OF PREPARING OFFICIAL		24b. SIGNATURE	
		24c. DATE	

STANDARD FORM 364 BACK (REV. 2-80)

Appendix (B)

1.0 REQUIREMENTS For IROAN of HMMWV

1.1 General Tasks. In fulfilling the specified requirements, the Contractor shall:

a. Provide materials, labor, facilities, repair parts and missing parts necessary to inspect, diagnose, restore, and test the HMMWV. Upon completion of IROAN, repaired vehicles shall be Condition Code "A".

b. Provide all tools and test equipment required to test, inspect, and calibrate the HMMWV.

c. Be responsible for all structural, electrical, and mechanical requirements associated with the IROAN of the HMMWV.

1.2 Detailed Tasks. Detailed tasks shall be as defined by TM-2320-50/1 and this Appendix, as well as the tasks described below. Documents cited in Appendix A of TM-2320-50/1 shall also be applied.

1.2.1 Phase I - Pre-Induction. A pre-induction inspection analysis shall be made for each HMMWV to be IROANed under the provisions of this Appendix using the Contractor Facility's diagnosis, inspection and testing techniques to determine extent of work and parts required. These findings shall be annotated on the Pre-Induction Check Sheet located in Appendix C of TM-2320-50/1 and shall be provided to the government in accordance with section 4.1 of this SOW. During the pre-induction Phase the contractor will submit oil samples from the engine and transmission of each vehicle identified by USMC number to a qualified lab for analysis (Qualified Lab is defined as a Lab Certified by the Joint Oil Analysis Program as per NAVAIR 17-15-50.1.) See the reference Table 1 and Table 2 for wear metal guidelines. The oil analysis lab sheet will be attached to the pre-induction check sheet. The contractor shall be responsible for correcting any deficiencies noted in the oil analysis.

1.2.1.1 HMMWV's received for IROAN shall have either a 60, 100, or 200 AMP alternator configuration. HMMWV's received with a 60, 100, or 200 AMP alternator shall be IROANed and returned with the same alternator configuration as received.

1.2.1.2 M1043, M1044, M1045 and M1046 HMMWV's are equipped with supplemental ballistic glass. Maximum allowable defects are listed in MIL-PRF-46108, Table 1. Delamination and cracks in the acrylic portion of the ballistic windshield and side glass are acceptable as long as the driver's vision is not impaired.

Appendix (C)

1.2.1.3 When a new tire is required to be ordered from the manufacturer, the new radial tire and wheel assembly identified in TM-2320-24P/8A shall be ordered and installed as per TM-2320-20/7B. Radial and bias ply tires shall not be intermixed on a HMMWV. During the IROAN process, bias ply tires meeting the specifications contained in TM-2320-50/1 shall not be disposed of. Bias ply tires and applicable wheels/rim assemblies shall be retained and installed on a HMMWV that requires a replacement tire. The Contractor is authorized to utilize stick on wheel weights when balancing the radial and or bias tires.

1.2.1.4 TM-2320-50/1, Page 2-1, Paragraph 2-2, subparagraph b - Change the note to read, "If it is determined that a vehicle exceeds 65% of the standard unit price or acquisition/replacement cost (whichever is greater), the government shall be provided with a detailed inspection report and cost estimate along with a request for specific instructions through the contracting officer." The standard unit price or acquisition/replacement cost will be provided to the Contractor by (Code PMM141) if requested.

1.2.1.5 Per TM-2320-50/1, Page 9-3, paragraph 9-2.3 and 9-2.4, a detailed inspection of each half shaft's outer and inner constant velocity (CV) joint is required. In lieu of complete disassembly and in accordance with the manufacturer's recommendation, each half shaft shall be removed and the CV joint shall be checked for rough movement and correct joint operation. If the half shafts CV joints are found defective, complete disassembly shall be performed and the CV joints shall be repaired/replaced as required. Then repairing the CV joints, authorization is granted for the use of Speedi-Sleeve on the CV and output flanges on all variants of the HMMWV. When replacement of the complete half shaft is required the contractor is authorized to use remanufactured half shafts.

1.2.1.6 TM-2320-50/1, Page 11-2, Paragraph 11-1.3 - Delete subparagraph d.

1.2.1.7 TM-2320-50/1, Page 11-7, paragraph 11-2.4 - Delete subparagraph c.

1.2.1.8 To determine the structural integrity of frame rails and related components, ultrasonic type application or inspection techniques may be required. A ping test of all frame rails will be performed 100%, a ping test is defined as pinging the underside of the frame rails with a hammer to determine the structural integrity of the frame rail. If the ping test does not conclusively determine the structural integrity of the frame rail a ultrasonic nondestructive testing may be performed. All frame rails/cross members and hardware found to be nonconforming will be replaced 100% utilizing TM 2320-20/7C and TM 2320-34/9B.

1.2.1.9 Test equipment shall be used to determine that assemblies and subassemblies meet prescribed reliability, performance, and work requirements. In those cases when conformance to TM-2320-50/1 cannot be certified through existing inspection and testing procedures and by use of available diagnostic equipment, the assembly shall be removed, disassembled, inspected, tested or repaired to the degree necessary to assure full conformance with this APPENDIX.

Appendix (C)

1.2.1.10 Rear main seals on all 6.2L engines will be replaced 100% utilizing TM 2815-34/3A and TM 2815-34P/4B.

1.2.1.11 All transfer case input and output seals will be replaced 100% utilizing TM 2320-20/7B and TM 2320-34/9B.

1.2.1.12 TM 2320-50/1, Page 14-8, change NOTE to read: Do not undercoat interior of battery box per TB 43-0213. Coat per Chapter 2-16S, page 2-8, of this Manual. Install Battery mat as per TI-11240-25/37. When undercoating vehicles the repair facilities are authorized to use XRC106 in lieu of TECTYL 2423 NST and/or ZIEBART.

1.2.1.13 TM 2320-50/1, Page 5-3, paragraph 5-1.4, section b. add the following statement: Replace coolant 100% with new antifreeze, do not use recycled antifreeze.

1.2.1.14 TM 2320-50/1, Page 3-4, add the following note: FOR DYNO TESTING OF THE HMMWV ENGINE STILL IN THE CHASSIS, THE MARINE CORPS RECOMMENDS USING A 4-WHEEL DYNO OR TOWED DYNO. HOWEVER IF A 2-WHEEL DYNO IS USED THE FRONT DIFFERENTIAL MUST BE MECHANICALLY DISCONNECTED, AND THE TRANSFER CASE PLACED INTO HIGH LOCK. UTILIZE THE OPERATING SPECIFICATION CITED IN TABLE 3-3, AS A BASE LINE.

1.2.1.15 TM 2320-50/1, Page 7-4, add the following paragraph. 7-1.7: Past inspections of HMMWV's has revealed the transmissions aluminum lip for mounting the cover has been broken off next to the engine's oil pan. The contractor is authorized to use the following repair procedure to repair this defect:

(a) Install converter-housing cover on transmission case with remaining cap screws. Tighten cap screws to 18 lb-ft.

(b) Measure down ½ inch from broken hole on cover and mark. Ensure new mounting hole will be aligned with other holes.

(c) Use letter size F drill bit to drill through housing cover and aluminum transmission case lip.

(d) Install self-tapping 5/16" screw (NSN 5305-01-253-2993). Tighten tapping screw to 18 lb-ft.

1.2.1.16 TM 2320-50/1, Page 10-2, paragraph 10-1.3, sub paragraph d. Change to read: All HMMWV's without the rear wheel parking brake will have the Army MWO 9-2320-280-35-1 applied 100%.

Appendix (C)

1.2.1.17 The contractor will ensure all HMMWV's have had west cost mirror kits installed. As a prerequisite before the HMMWV's are sent to the contractor all mirror assemblies have been removed. This Appendix does not require the contractor to install a rearview mirror assembly. It does require the contractor check the windshield frame to ensure the holes and blind rivets have been installed.

1.2.1.18 To clarify conflicting information regarding rust proofing of the Weapon Station tray assembly on the M1043, M1044, M1045, and M1046 as per TB 43-0213 the following guidance is provided: TB 43-0213, page 20-3, paragraph d, fig 20-4, disregard dimensions for location of holes D and E. TB 43-0213, page 20-8, paragraph j. fig 20-12, drill two holes D and E in channel C. Hole E should be 9 inches from the end of the opening in channel C. Hole D should be 12 inches from hole E. Holes should be ½ inch in diameter. To apply undercoating insert flexible tool into openings A, B, and C at end of channels and holes D and E. Spray in all directions while slowly withdrawing tool.

1.2.2 Phase II - IROAN. After all pre-induction tests and inspections have been completed; repair of the HMMWV Series Trucks shall be accomplished in accordance with this Appendix and TM-2320-50/1. The Contractor shall perform the IROAN. Information recorded on the IROAN Pre-Induction Check Sheet during pre-induction phase shall be used as a guide by the Contractor to achieve the mechanical baseline of production HMMWV Series Trucks. The following efforts in addition to the requirements specified by TM-2320-50/1 shall be performed.

1.2.2.1 Detailed Mechanical Work. HMMWV Series Trucks received for IROAN shall be worked in accordance with the following paragraphs. All deficiencies noted on the IROAN Pre-Induction Check Sheet shall be repaired/replaced.

1.2.2.2 Hardware

(a) Replace broken, unserviceable and/or missing hardware including nuts, bolts, screws, washers, turn lock fasteners, etc., in accordance with TM-2320-50/1. Unserviceable would include any of the above that failed to function properly.

(b) Ensure proper hardware locking devices are present on all moving mechanical assemblies.

(c) Hardware normally supplied with commercial parts shall be used unless specifically prohibited.

Appendix (C)

1.2.2.3 Painting. HMMWV's requiring painting/touchup, exterior or interior, shall be repainted 100% with Chemical Agent Resistant Coating (CARC) and have the three color camouflage pattern applied. Painting procedures and camouflage patterns shall be in accordance with TM-4750-15/1 and TM-4750-15/2. Painting is authorized 100 percent for corrosion control. Tires shall not be painted. The contractor facilities are now authorized to use Waterborne Camouflage Coating in lieu of CARC due to stringent local environmental regulations.

1.2.2.4 Data Plate. HMMWV Series Trucks shall have an IROAN data plate. Locate IROAN data plate on the passenger front outside kick panel. This plate shall be constructed of metal and shall be attached after the vehicle has completed the IROAN cycle. The data plate shall contain the following information:

VEH. SER. NO. _____ DATE _____
REPAIRED TO C/C "A" LIMITED STANDARDS IN ACCORDANCE WITH
IROAN PROCEDURE FOR HMMWV
ODOMETER READING AT TIME OF IROAN _____
CONTRACTOR _____

NOTE: Odometers on HMMWV's IROANed under the provisions of Appendix C shall not be reset to zero.

1.2.2.5 All HMMWV Series Trucks received with standard (plastic) grills shall be replaced 100 percent with the metal (ballistic) grill. Installation and part number shall be in accordance with TM-2320-24P/8A and TM-2320-34/9B.

1.2.3 Phase III - Inspection, Testing and Acceptance

1.2.3.1 Inspection, testing and acceptance of the HMMWV shall be conducted in accordance with the Final Road Test Checklist and the Final Acceptance Checklist (TM 2320-50/1 Appendix D). The completed checklist shall be provided to the government in accordance with section 4.2 of this SOW.

1.2.3.2 The Contractor shall be responsible for conducting all required tests and shall ensure all necessary personnel are available to complete the final acceptance. Acceptance test shall be held at the Contractors Facility. MCLB, Albany, Georgia, representatives shall be given a minimum of two weeks notice prior to beginning acceptance testing. The test area shall be cleared of all equipment parts and components not required for the test.

1.2.3.3 The Contractor shall be responsible for correcting any deficiencies identified during inspection/testing. MCLB (PMM141), Albany, Georgia, may require the Contractor to repeat tests or portions thereof, if the original tests fail to demonstrate compliance with this Appendix.

Appendix (C)

1.2.3.4 Acceptance testing on all HMMWV Series Trucks IROANed under the provisions of this Appendix shall be accomplished in accordance with TB 9-2300-388-50.

1.2.3.5 TM-2320-50/1, Page 2-3, Paragraph 2-13 - Oil Seal and Gasket Leakage - If after compliance with this paragraph, the inspector is in doubt, use TM 2320-10/6B, Appendix G, for further guidance regarding Lubrication Instructions/Fluid Capacities.

Table 1

COMPONENTS 6.2L ENGINE WEARMETAL GUIDELINES, PARTS PER MILLION (PPM)

New	Cu	Fe	Cr	Pb	Al	Si
Normal	0-31	0-99	0-6	0-84	0-15	0-134
Marginal	32-42	100-146	7-9	85-117	16-21	135-177
High	43-53	147-193	10-12	118-150	22-27	178-220
Abnormal	54 or more	194 or more	13 or more	151 or more	28 or more	221 or more

Rebuild	Cu	Fe	Cr	Pb	Al	Si
Normal	0-17	0-45	0-10	0-34	0-10	0-32
Marginal	15-21	46-56	11-25	35-45	11-13	33-41
High	22-28	56-67	26-35	46-56	14-16	42-50
Abnormal	29 or more	68 or more	36 or more	57 or more	17 or more	51 or more

IROAN	Cu	Fe	Cr	Pb	Al	Si
Normal	0-22	0-88	0-7	0-27	0-16	0-63
Marginal	23-36	89-123	8-11	28-38	17-26	64-91
High	37-50	124-158	12-15	39-49	27-36	92-119
Abnormal	51 or more	159 or more	16 or more	50 or more	37 or more	120 or more

Table 2**COMPONENT THM 400 Transmission**

REBUILD	Cu	Fe	Cr	Pb	Al	Si
Average	74	11	1	10	2	13
Std. Dev.	33	7	1	5	1	8
2 Std. Dev.	66	14	2	10	2	16
Abnormal	140	25	3	20	4	29

IROAN	Cu	Fe	Cr	Pb	Al	Si
Average	49	23	1	16	3	19
Std. Dev.	29	14	1	11	1	22
2 Std. Dev.	58	28	2	22	2	44
Abnormal	107	51	3	38	5	63